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	L #	Hits	Search Text
1	L1	187233	st or gc-c
2	L2	43600	receptor
3	L3	9484	1 and 2
4	L4	17477	metastas\$4 or invasion or invad\$2
5	L5	1597	3 and 4
6	L6	26807	colorectal or intestin\$3
7	L7	648	5 and 6
8	L8	8722	435/4,6.ccls.
9	L9	1444	436/63,64.ccls.
10	L10	102	7 and (8 or 9)
11	L11	1928	(lamina adj propria) or laminapropria or (basement adj membrane)
12	L12	22	10 and 11
13	L13	190029	st or gc-c or sta or (heat-stable adj enterotoxin) or (guanylyl adj cyclase)
14	L14	9742	13 and 2
15	L15	1622	14 and 4
16	L16	662	15 and 6
17	L17	107	16 and (8 or 9)
18	L18	22	17 and 11

=> d his

(FILE 'HOME' ENTERED AT 13:32:53 ON 27 JAN 2001)

FILE 'MEDLINE, EMBASE, BIOSIS, CAPLUS' ENTERED AT 13:33:06 ON 27 JAN 2001

L1 321334 S STA OR ST OR ENTEROTOXIN OR GCC OR GC-C
L2 1742139 S RECEPTOR
L3 614191 S TRANSCRIPTION OR SPLICE VARIANT OR MESSAGE
L4 244 S L1 AND L2 AND L3
L5 832343 S INTESTIN? OR COLORECTAL
L6 48 S L4 AND L5
L7 27 DUP REM L6 (21 DUPLICATES REMOVED)

L7 ANSWER 1 OF 27 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:275313 CAPLUS

DOCUMENT NUMBER: 132:313670

TITLE: Coated substrates for blood, plasma, or tissue
washing

and columns equipped with these substrates

INVENTOR(S): Dunzendorfer, Udo; Will, Gottfried

PATENT ASSIGNEE(S): Germany

SOURCE: Ger. Offen., 30 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19845286	A1	20000427	DE 1998-19845286	19981001
EP 1004598	A2	20000531	EP 1999-118541	19990918
EP 1004598	A3	20000607		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: DE 1998-19845286 19981001

AB Columns, filters, cannulas, etc. contg. substrates coated with specific antibodies can be used during plasmapheresis to remove pathogenic cytokines such as tumor necrosis factor (TNF), anti-TNF, fragments of TNF or anti-TNF, or TNF transport proteins from blood, plasma, or tissues. The substrates may addnl. be coated with antibodies to microbial or viral pathogens or mixts. of pathogens as well as to polysaccharide antigens, viral capsids, microbial antigens, reverse transcriptase, endothelin, protein A, etc. Selective removal of these pathogens, antigens, proteins,

etc. leaves all normal plasma components unchanged and obviates the need for supplementation of the plasma with these components. Suitable substrates include polymers, polymer-coated metals, cellulose derivs., starch, and Sepharose; these may be derivatized for covalent binding of the pathogens or pathogenic mols. Thus, Escherichia coli pyelonephritis was successfully treated by plasmapheresis coupled with columns loaded with anti-TNF-.alpha. for 14 days, 4 h/day, as detd. by decreases in plasma TNF-.alpha. levels and colony counts in urine cultures.

L7 ANSWER 2 OF 27 MEDLINE

ACCESSION NUMBER: 2000174584 MEDLINE

DOCUMENT NUMBER: 20174584

TITLE: A ***splice*** ***variant*** of the transcript for
guanylyl cyclase C is expressed in human colon and
colorectal cancer cells.
AUTHOR: Pearlman J M; Prawer S P; Barber M T; Parkinson S J;
Schulz
S; Park J; Zook M; Waldman S A
CORPORATE SOURCE: Department of Medicine, Thomas Jefferson University,
Philadelphia, Pennsylvania 19107, USA.
CONTRACT NUMBER: HL59214 (NHLBI)
CA75123 (NCI)
CA79663 (NCI)
+
SOURCE: DIGESTIVE DISEASES AND SCIENCES, (2000 Feb) 45 (2) 298-
305.

Journal code: EAD. ISSN: 0163-2116.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200005
ENTRY WEEK: 20000504

AB Guanylyl cyclase C is a sensitive and specific biomarker for metastatic
colorectal cancer. A variant of the guanylyl cyclase C
transcript

was identified that possesses a 142-bp deletion at the 3' end of exon 1
reflecting alternative splicing of mRNA, introducing a shift in the open
reading frame that prevents translation of a guanylyl cyclase C-related
product. This variant was identified in human ***intestine*** and
colon carcinomas, but not in extraintestinal tissues or tumors. These
studies demonstrate that ***GCC*** and the ***splice***
variant contribute to the pool of ***GCC*** transcripts
detected by RT-PCR in human tissues. They indicate that primers for RT-

PCR

that amplify regions downstream from the deletion are required to assess
the full complement of ***GCC*** transcripts (***GCC*** +
GCC (var)) in human tissues and body fluids for staging and
postoperative surveillance of patients with ***colorectal*** cancer.

L7 ANSWER 3 OF 27 BIOSIS COPYRIGHT 2001 BIOSIS DUPLICATE 1
ACCESSION NUMBER: 2000:254474 BIOSIS
DOCUMENT NUMBER: PREV200000254474
TITLE: The guanylyl cyclase family in medaka fish *Oryzias*
latipes.
AUTHOR(S): Kusakabe, Takehiro; Suzuki, Norio (1)
CORPORATE SOURCE: (1) Division of Biological Sciences, Graduate School of
Science, Hokkaido University, Sapporo, 060-0810 Japan
SOURCE: Zoological Science (Tokyo), (March, 2000) Vol. 17, No. 2,
pp. 131-140. print..
ISSN: 0289-0003.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Guanylyl cyclase (GC) converts GTP into cGMP, an intracellular second
messenger involved in a wide variety of cellular, developmental, and
neuronal processes. Medaka fish, a small teleost, *Oryzias latipes* has
been

used to study organization and transcriptional regulation of the guanylyl
cyclase gene family. Medaka fish expresses virtually all types of GCs
found in mammals. Eight membrane GCs (OIGC1-7 and OIGC-R2) have been
identified in medaka fish. OIGC1, OIGC2, and OIGC7 belong to the

natriuretic peptide ***receptor*** subfamily. OIGC6 is a homologue of the mammalian ***GC*** - ***C***, an ***enterotoxin*** /guanylin ***receptor***, expressed predominantly in the ***intestine***. OIGC3, OIGC4, OIGC5, and OIGC-R2 are members of the sensory organ-specific GC subfamily where they are differentially expressed in rods and cones of the retina and in the pineal organ. Complete genomic DNA sequences have been determined for the OIGC1 and OIGC6 genes. Their exon-intron organization is highly conserved between fish and mammals. The medaka fish genome also contains genes encoding alpha and beta subunits of the cytoplasmic form of GC (soluble GC), which is activated by nitric oxide. The two subunit genes are closely linked in tandem in the order of alpha and beta. Function of cis-regulatory regions of medaka fish GC genes have been investigated in transgenic medaka fish embryos and in mammalian cell lines. The upstream region of the alpha subunit gene of soluble GC appears to regulate expression of both alpha and beta subunit genes, suggesting a mechanism of coordinated ***transcription*** of the two subunit genes. The upstream regions sufficient for the tissue-specific expression of sensory organ GCs also have been determined by transgenic analysis. Readiness for genetics and genetic manipulations in medaka fish would make this small fish a useful experimental system for studying the regulation of gene expression and roles of the guanylyl cyclase family in vertebrates.

L7 ANSWER 4 OF 27 MEDLINE DUPLICATE 2
 ACCESSION NUMBER: 2000349417 MEDLINE
 DOCUMENT NUMBER: 20349417
 TITLE: ***Intestine*** -specific activity of the human guanylyl cyclase C promoter is regulated by Cdx2.
 AUTHOR: Park J; Schulz S; Waldman S A
 CORPORATE SOURCE: Division of Clinical Pharmacology, Department of Medicine and Biochemistry, Thomas Jefferson University, Philadelphia, Pennsylvania, USA.
 CONTRACT NUMBER: R01 HL659214 (NHLBI)
 R01 CA75123 (NCI)
 R21 CA79663 (NCI)
 +
 SOURCE: GASTROENTEROLOGY, (2000 Jul) 119 (1) 89-96.
 Journal code: FH3. ISSN: 0016-5085.
 PUB. COUNTRY: United States
 Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals; Cancer Journals
 ENTRY MONTH: 200010
 ENTRY WEEK: 20001001
 AB BACKGROUND & AIMS: The heat-stable ***enterotoxin*** ***receptor***, guanylyl cyclase C, exhibits an ***intestine*** -specific pattern of expression. The aim of this study was to identify the transcriptional activator that mediates ***intestine*** -specific expression of guanylyl cyclase C. METHODS: Fragments of the promoter were assayed to isolate regions directing ***intestine*** -specific gene activation. Deoxyribonuclease I footprinting was used to identify a site of ***intestine*** -specific protection. Electrophoretic mobility shift assays (EMSAs) and supershift analyses were used to characterize the

protein that bound to the protected site. The protected site was mutated to analyze its role in promoter activity. RESULTS: Reporter gene assays revealed that ***intestine*** -specific expression of guanylyl cyclase C is directed by the proximal promoter. Deoxyribonuclease I footprinting identified a specific site in the proximal promoter that exhibited ***intestine*** -specific protection. EMSAs and supershift analyses revealed that the ***transcription*** factor Cdx2 bound to an ***intestine*** -specific site of protection. Mutation of the Cdx2-protected site of the promoter eliminated binding of Cdx2 and reduced reporter gene activity to the level of extraintestinal cells.

CONCLUSIONS:

These data show that Cdx2 and its consensus-binding site in the promoter are required for ***intestine*** -specific expression of the guanylyl cyclase C gene.

L7 ANSWER 5 OF 27 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2000389907 EMBASE

TITLE: Guanylyl cyclase-C ***receptor*** mRNA distribution along the rat nephron.

AUTHOR: Carrithers S.L.; Taylor B.; Cai W.Y.; Johnson B.R.; Ott C.E.; Greenberg R.N.; Jackson B.A.

CORPORATE SOURCE: S.L. Carrithers, Division of Infectious Diseases, University of Kentucky, Lexington Vet. Affairs Medical Ctr., 1101 VA Drive, Lexington, KY 40506, United States. slcaru0@pop.uky.edu

SOURCE: Regulatory Peptides, (24 Nov 2000) 95/1-3 (65-74). Refs: 51

ISSN: 0167-0115 CODEN: REPPDY

PUBLISHER IDENT.: S 0167-0115(00)00139-7

COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology
029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Guanylin (GN) and uroguanylin (UGN) are two recently identified peptides that have been shown to affect water and electrolyte transport in both the

intestine and the kidney. Mechanistically, the effects of both peptides are thought to be mediated by intracellular cGMP which results from ligand binding to a plasma membrane guanylyl cyclase-C (***GC***

C) ***receptor*** . To date, the specific intrarenal site(s) of

GN and UGN action have not been established. To begin to address this issue, the present studies utilized semi-quantitative RT-PCR to assess the

distribution of ***GC*** - ***C*** mRNA in specific microdissected segments of the rat nephron. ***GC*** - ***C*** mRNA expression was highest in the cortical collecting tubule, followed by the proximal convoluted tubule, medullary thick ascending limb and collecting tubule, and thin limbs of Henle's loop. Expression levels were significantly lower

in all other segments tested, including the glomerulus. The renal tubular expression pattern for cGMP-dependent protein kinase II (cGK-II) mRNA, which is activated in response to GN/UGN-dependent cGMP accumulation, was similar to that for ***GC*** - ***C*** . Notably, both GN and UGN mRNAs were also expressed along the nephron. The highest levels of expression for both peptides were detected in the medullary collecting

tubule. Lower, but comparable levels of GN and UGN expression also occurred in the cortical collecting tubule, cortical and medullary thick ascending limb, and thin limbs of Henles loop. In the proximal convoluted tubule, GN mRNA expression was also quite high, while UGN mRNA was almost undetectable. The presence of renal ***GC*** - ***C*** and cGK-II in the kidney are consistent with a proposed endocrine function for GN and UGN. In addition however, the present data suggest that intrarenally synthesized GN and UGN may also contribute to the regulation of renal tubular transport. (C) 2000 Elsevier Science B.V.

L7 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1999:529282 CAPLUS

DOCUMENT NUMBER: 131:154480

TITLE: Methods for obtaining a cell-specific binding molecule

that increases uptake and/or specificity of a genetic vaccine to a target cell

INVENTOR(S): Punnonen, Juha; Stemmer, Willem P. C.; Howard, Russell; Patten, Phillip A.

PATENT ASSIGNEE(S): Maxygen, Inc., USA

SOURCE: PCT Int. Appl., 78 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9941402	A2	19990819	WO 1999-US3023	19990210
WO 9941402	A3	19991111		

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ,

TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9926742	A1	19990830	AU 1999-26742	19990210
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EP 1053343	A2	20001122	EP 1999-906949	19990210
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

PRIORITY APPLN. INFO.:

US 1998-21769	19980211
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US 1998-74294	19980211
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WO 1999-US3023	19990210
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AB The present invention provides methods for obtaining a cell-specific binding mol. that is useful for increasing uptake or specificity of a genetic vaccine to a target cell. The methods involve (1) creating a library of recombinant polynucleotides encoding polypeptides with a nucleic acid binding domain and polypeptides with a cell-specific binding domain; and (2) screening said library for recombinant polynucleotides that encode mols. that can bind to a nucleic acid and also to a cell-specific ***receptor***. Specifically, the invention describes the use of the DNA shuffling method to evolve ***receptor*** binding components of enterotoxins derived from *Vibrio cholerae* and enterotoxigenic strains of *E. coli* for improved attachment to cell surface

receptors and for improved entry to and transport across the cells of the
 intestinal epithelium. An antigen of interest can be fused to
 these toxin subunits to facilitate the screening of evolved
 enterotoxin subunits, and also to facilitate oral delivery of
 proteins. The invention also provides methods of evolving a
 bacteriophage-derived vaccine delivery vehicle to obtain a delivery
 vehicle having enhanced ability to enter a target cell.

L7 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1999:126917 CAPLUS
 DOCUMENT NUMBER: 130:192711
 TITLE: Diagnosis of ***colorectal*** cancer metastasis
 with PCR primers for CRCA-1 transcript
 INVENTOR(S): Waldman, Scott A.; Pearlman, Joshua M.; Barber,
 Michael T.; Schulz, Stephanie; Parkinson, Scott J.
 PATENT ASSIGNEE(S): Thomas Jefferson University, USA
 SOURCE: PCT Int. Appl., 133 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9907726	A1	19990218	WO 1998-US16440	19980807
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6120995	A	20000919	US 1997-908643	19970807
AU 9887744	A1	19990301	AU 1998-87744	19980807
EP 1003769	A1	20000531	EP 1998-939279	19980807
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1997-908643 19970807
 WO 1998-US16440 19980807

AB Detection of a CRCA-1 transcript in extraintestinal tissue or body fluid
 is disclosed as a method of diagnosing ***colorectal*** cancer
 metastases. The CRCA-1 transcript is an alternatively spliced transcript
 of the ***ST*** ***receptor*** / ***receptor*** guanylate
 cyclase ***GCC***. This mRNA has a deletion in the first exon in the
 coding region of the ***ST*** ***receptor***. The deletion
 results in a frameshift of the coding region such that it no longer
 encodes the ***ST*** ***receptor***. The expression pattern of
 the ***splice*** ***variant*** is the same as that of the
 full-length ***receptor***.

REFERENCE COUNT: 1
 REFERENCE(S): (1) Waldman; US 5601990 A 1997 CAPLUS

L7 ANSWER 8 OF 27 MEDLINE

ACCESSION NUMBER: 1999221139 MEDLINE
 DOCUMENT NUMBER: 99221139
 TITLE: Detection of cytokeratins 19/20 and guanylyl cyclase C in
 peripheral blood of ***colorectal*** cancer patients.
 AUTHOR: Bustin S A; Gyselman V G; Williams N S; Dorudi S
 CORPORATE SOURCE: Academic Department of Surgery, St Bartholomew's and the
 Royal London School of Medicine and Dentistry, UK.
 SOURCE: BRITISH JOURNAL OF CANCER, (1999 Apr) 79 (11-12) 1813-20.
 Journal code: AV4. ISSN: 0007-0920.
 PUB. COUNTRY: SCOTLAND: United Kingdom

(CLINICAL TRIAL)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals; Cancer Journals
ENTRY MONTH: 199907
ENTRY WEEK: 19990702

AB The clinical significance of detecting supposed tumour cell-derived mRNA transcripts in blood using the polymerase chain reaction (PCR) remains unclear. We have used a fully quantitative 5'-nuclease RT-PCR assay to screen for the expression of cytokeratins (ck) 19 and 20 and guanylyl cyclase C (***GCC***) in the peripheral blood of 21 healthy controls and 27 ***colorectal*** cancer patients. Expression of cytokeratin 19 and 20 mRNA was detected in 30% and 100% of samples, respectively, taken from healthy volunteers. There was no apparent difference in ck19 and

ck20 mRNA ***transcription*** levels between controls and patients, or between patients with different Dukes' stages. While ***GCC*** mRNA was detected in only 1/21 control samples, it was expressed in approximately 80% of patients, although again there was no correlation between ***GCC*** levels and disease stage. ***Transcription*** levels of all three markers varied considerably between samples, even between samples taken from the same person at different times. We conclude

that neither ck19 nor ck20 are reliable markers for the detection of colon

epithelial cells in peripheral blood and that an evaluation of the usefulness of ***GCC*** awaits further longitudinal studies.

L7 ANSWER 9 OF 27 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2000025711 MEDLINE
DOCUMENT NUMBER: 20025711
TITLE: Renal effects of uroguanylin and guanylin in vivo.
AUTHOR: Carrithers S L; Hill M J; Johnson B R; O'Hara S M; Jackson B A; Ott C E; Lorenz J; Mann E A; Giannella R A; Forte L R;

CORPORATE SOURCE: Greenberg R N
Department of Internal Medicine, Division of Infectious Diseases, VA Medical Center, University of Kentucky, Lexington, KY 40536-0084, USA.

SOURCE: BRAZILIAN JOURNAL OF MEDICAL AND BIOLOGICAL RESEARCH,
(1999

Nov) 32 (11) 1337-44.
Journal code: BOF. ISSN: 0100-879X.

PUB. COUNTRY: Brazil
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200004
ENTRY WEEK: 20000401

AB Uroguanylin and guanylin are newly discovered endogenous heat-stable peptides that bind to and activate a membrane bound guanylyl cyclase signaling ***receptor*** (termed guanylyl cyclase C; ***GC*** - ***C***). These peptides are not only found in blood but are secreted into the lumen of the ***intestine*** and effect a net secretion of electrolytes (Na⁺, K⁺, Cl⁻, HCO₃⁻) and fluid into the ***intestine*** via a cyclic guanosine-3', 5'-monophosphate (cGMP) mechanism. ***GC*** - ***C*** is also the ***receptor*** for Escherichia coli heat-stable ***enterotoxin*** (***STa***) and activation by ***STa*** results in a diarrheal illness. Employing mouse renal in

vivo

models, we have demonstrated that uroguanylin, guanylin, and ***STa*** elicit natriuretic, kaliuretic, and diuretic effects. These biological responses are time- and dose-dependent. Maximum natriuretic and

kaliuretic

effects are observed within 30-40 min following infusion with pharmacological doses of the peptides in a sealed-urethra mouse model.

Our

mouse renal clearance model confirms these results and shows significant natriuresis following a constant infusion of uroguanylin for 30 min,

while

the glomerular filtration rate, plasma creatinine, urine osmolality,

heart

rate, and blood pressure remain constant. These data suggest the peptides act through tubular transport mechanisms. Consistent with a tubular mechanism, messenger RNA-differential display PCR of kidney RNA extracted from vehicle- and uroguanylin-treated mice show the ***message*** for the Na+/K+ ATPase gamma-subunit is down-regulated. Interestingly,

GC - ***C*** knockout mice (Gucy2c -/-) also exhibit

significant

uroguanylin-induced natriuresis and kaliuresis in vivo, suggesting the presence of an alternate ***receptor*** signaling mechanism in the kidney. Thus, uroguanylin and guanylin seem to serve as

intestinal

and renal natriuretic peptide-hormones influencing salt and water transport in the kidney through ***GC*** - ***C*** dependent and independent pathways. Furthermore, our recent clinical probe study has revealed a 70-fold increase in levels of urinary uroguanylin in patients with congestive heart failure. In conclusion, our studies support the concept that uroguanylin and guanylin are endogenous effector peptides involved in regulating body salt and water homeostasis.

L7 ANSWER 10 OF 27 MEDLINE

DUPLICATE 4

ACCESSION NUMBER: 1999170568 MEDLINE

DOCUMENT NUMBER: 99170568

TITLE: Hepatocyte nuclear factor-4 regulates ***intestinal*** expression of the guanylin/heat-stable toxin ***receptor***

AUTHOR: Swenson E S; Mann E A; Jump M L; Giannella R A

CORPORATE SOURCE: Division of Digestive Diseases, Veterans Affairs Medical Center and University of Cincinnati College of Medicine, Cincinnati, Ohio 45267, USA.

SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY, (1999 Mar) 276 (3 Pt 1) G728-36.

Journal code: 3U8. ISSN: 0002-9513.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199906

ENTRY WEEK: 19990603

AB We have investigated the regulation of gene ***transcription*** in the

intestine using the guanylyl cyclase C (***GCC***) gene as a

model. ***GCC*** is expressed in crypts and villi in the small

intestine and in crypts and surface epithelium of the colon.

DNase

I footprint, electrophoretic mobility shift assay (EMSA), transient transfection assays, and mutagenesis experiments demonstrated that

reverse ***transcription*** (RT)-PCR analysis demonstrated that the OlGC6 transcript is present in the kidney, spleen, liver, pancreas, gallbladder, ovary, testis, brain, and eye. RT-PCR also demonstrated that OlGC6 is only expressed zygotically and that transcripts are present from 1 day after fertilization, i.e. long before the ***intestinal*** tissues begin to develop.

L7 ANSWER 12 OF 27 MEDLINE

ACCESSION NUMBER: 199211967 MEDLINE

DOCUMENT NUMBER: 99211967

TITLE: Gene expression of vasoactive ***intestinal*** contractor/endothelin-2 in ovary, uterus and embryo: comprehensive gene expression profiles of the endothelin ligand- ***receptor*** system revealed by semi-quantitative reverse ***transcription*** -polymerase chain reaction analysis in adult mouse tissues and during late embryonic development.

AUTHOR: Uchide T; Masuda H; Mitsui Y; Saida K

CORPORATE SOURCE: National Institute of Bioscience and Human-Technology, Agency of Industrial Science and Technology, Tsukuba, Ibaraki 305-8566, Japan.

SOURCE: JOURNAL OF MOLECULAR ENDOCRINOLOGY, (1999 Apr) 22 (2) 161-71.

Journal code: AEG. ISSN: 0952-5041.

PUB. COUNTRY: ENGLAND: United Kingdom

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199908

ENTRY WEEK: 19990802

AB Vasoactive ***intestinal*** contractor (VIC)/endothelin-2 (ET-2) is a 21 amino acid ***intestinal*** peptide characterized as a potent vasoactive and ***intestinal*** smooth muscle-contracting compound.

To

investigate the physiological roles of VIC/ET-2 further, we characterized the specificity of VIC gene expression relative to that of other members of the endothelin (ET) ligand- ***receptor*** system in adult mouse tissues and during embryonic development. Gene expression of ET-1, ET-3, ETA and ETB was ubiquitous in almost all tissues we examined while gene expression of VIC was localized to certain tissues. A high level of VIC gene expression was observed in ovary and uterus. The gene expression of VIC, relative to that of glyceraldehyde-3-phosphate dehydrogenase, was approximately 2.0%, 0.4%, and 2.3% in ovary, uterus, and

intestine

respectively, and was approximately 1.6 and 7.1 times higher than that

of

ET-1 in ovary and ***intestine*** respectively. Thus, VIC may have some physiological role in adult ovary and uterus as well as ***intestine***. In embryonic development, VIC gene expression

sharply

increased between 11 and 15 days post coitus and decreased after birth, suggesting an involvement in the later stages of embryonic development.

L7 ANSWER 13 OF 27 MEDLINE

ACCESSION NUMBER: 1998431831 MEDLINE

DOCUMENT NUMBER: 98431831

TITLE: Cl- transport in an immortalized human epithelial cell line

(NCM460) derived from the normal transverse colon.

AUTHOR: Sahi J; Nataraja S G; Layden T J; Goldstein J L; Moyer M

P;

Rao M C
CORPORATE SOURCE: Department of Physiology and Biophysics, University of
Illinois at Chicago, Chicago, Illinois 60612, USA.
CONTRACT NUMBER: DK-38510 (NIDDK)
DK-46910 (NIDDK)
HL-48497 (NHLBI)
+
SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY, (1998 Oct) 275 (4 Pt 1)
C1048-57.
Journal code: 3U8. ISSN: 0002-9513.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199901
ENTRY WEEK: 19990104

AB Cells of a newly described, immortalized, epithelial, human transverse
colonic cell line, NCM460, reach approximately 90% confluence on plastic
and develop transepithelial resistances of 120-250 $\Omega \cdot \text{cm}^2$ on porous
substrates. Its utility as a model for the transverse human colon was
validated by comparing second messenger-mediated Cl^- transport, using the
fluorescent probe 6-methoxy-quinolyl acetoethyl ester, in NCM460 cells

and

colonocytes isolated from human transverse crypts. Basal Cl^- influx was
increased ($P < 0.01$) by PGE_1 (1 μM), forskolin (1 μM),
8-bromoadenosine 3'5'-cyclic monophosphate (100 μM), heat-stable
Escherichia coli ***enterotoxin*** (***STa*** ; 1 μM),
8-bromoguanosine 3'5'-cyclic monophosphate (100 μM), histamine (1
 μM), and phorbol 12,13-dibutyrate (1 μM) in both cell types. The
 Cl^- channel blocker diphenylamine 2-carboxylic acid (50 μM) and the
 $\text{Na}^+/\text{K}^+/\text{2Cl}^-$ cotransport inhibitor furosemide (1 μM), but not the K^+
channel blocker Ba^{2+} (3 mM), inhibited these Cl^- permeabilities. These
cells possess transcripts for cystic fibrosis transmembrane conductance
regulator, $\text{Na}^+/\text{K}^+/\text{2Cl}^-$ cotransporter, ***STa*** ***receptor***,
and ***intestine*** -specific cGMP-dependent protein kinase II. Thus
cAMP-, cGMP-, and Ca^{2+} -dependent secretagogues act on NCM460 and primary
colonocytes to stimulate Cl^- transport. This validates the utility of
NCM460 as a model for transverse colonic crypts and is the first
demonstration of a colonic cell line whose origin is known.

L7 ANSWER 14 OF 27 MEDLINE

ACCESSION NUMBER: 1998303197 MEDLINE

DOCUMENT NUMBER: 98303197

TITLE: Heterogeneity of guanylyl cyclase C expressed by human
colorectal cancer cell lines in vitro.

AUTHOR: Waldman S A; Barber M; Pearlman J; Park J; George R;
Parkinson S J

CORPORATE SOURCE: Department of Medicine, Thomas Jefferson University,
Philadelphia, Pennsylvania 19107, USA..
waldmans@jefflin.tju.edu

SOURCE: CANCER EPIDEMIOLOGY, BIOMARKERS AND PREVENTION, (1998 Jun)
7 (6) 505-14.

Journal code: BNJ. ISSN: 1055-9965.

PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199811
ENTRY WEEK: 19981101

AB In humans, guanylyl cyclase C (***GCC***) is expressed by mucosal cells lining the ***intestine*** , from the duodenum to the rectum, but not by extraintestinal tissues. Expression of / ***GCC*** persists after mucosal cells undergo neoplastic transformation, and this protein has been identified in all primary and metastatic ***colorectal*** tumors examined to date, suggesting that ***GCC*** may be a highly specific biomarker for ***colorectal*** cancer. The utility of ***GCC*** as a diagnostic biomarker and therapeutic target is predicated, in part, on defining the variability of its expression in ***colorectal*** cancer cells. Similarly, the utility of this biomarker to define tumor burden in diagnosing, staging, and postoperative surveillance of patients is predicated on quantifying ***GCC*** expression in cancer cells in tissues and blood. The present studies examined the heterogeneity of ***GCC*** expression in eight human ***colorectal*** carcinoma cell lines in vitro representing the full spectrum of cytological differentiation. Quantification of ***GCC*** expression by ligand binding and stimulation of cGMP accumulation demonstrated that functional ***GCC*** expression is heterogeneous in different ***colorectal*** cancer cell lines. Qualitative reverse ***transcription*** (RT)-PCR demonstrated that all ***colorectal*** cancer cells examined expressed ***GCC*** mRNA. However, ***GCC*** expression varied 100-fold in different ***colorectal*** cancer cell lines, determined by a novel quantitative RT-PCR assay. Functional and molecular expressions of ***GCC*** were unrelated to the differentiation state of cancer cells. These studies suggest that ***GCC*** is heterogeneously expressed by ***colorectal*** cancer cells in vitro and suggest a role for quantitative RT-PCR analysis in the development of diagnostic tests using ***GCC*** as a biomarker for metastatic ***colorectal*** cancer.

L7 ANSWER 15 OF 27 MEDLINE

ACCESSION NUMBER: 1998173360 MEDLINE

DOCUMENT NUMBER: 98173360

TITLE: Use of guanylyl cyclase C for detecting micrometastases in lymph nodes of patients with colon cancer.

AUTHOR: Waldman S A; Cagir B; Rakinic J; Fry R D; Goldstein S D; Isenberg G; Barber M; Biswas S; Minimo C; Palazzo J; Park

P

K; Weinberg D

CORPORATE SOURCE: Department of Medicine, Thomas Jefferson University, Philadelphia, Pennsylvania 19107, USA.

SOURCE: DISEASES OF THE COLON AND RECTUM, (1998 Mar) 41 (3) 310-5. Journal code: EAB. ISSN: 0012-3706.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals; Cancer Journals

ENTRY MONTH: 199806

ENTRY WEEK: 19980601

AB INTRODUCTION: Guanylyl cyclase C appears to be expressed only in ***colorectal*** cancer cells in extraintestinal tissues. Thus, guanylyl cyclase C may be useful as a marker to detect ***colorectal*** cancer micrometastases not detectable by histopathology in lymph nodes of

patients. METHODS: Twelve patients with colon adenocarcinoma, Dukes Stages A through C2, and one patient with a tubulovillous adenoma were included in this study. Forty-two lymph nodes were collected from fresh surgical specimens, and each was examined by histopathology and reverse ***transcription*** followed by polymerase chain reaction using guanylyl cyclase C-specific primers. Histopathology identified colon cancer cells in 6 of 16 lymph nodes from five Dukes Stage C patients but not in lymph nodes from the patient with a tubulovillous adenoma, the Dukes Stage A patient, or six Dukes Stage B patients. Reverse ***transcription*** followed by polymerase chain reaction using guanylyl cyclase C-specific primers was performed on all 42 lymph nodes. RESULTS: Guanylyl cyclase C messenger RNA was not detected by reverse ***transcription*** followed by polymerase chain reaction in lymph nodes from the patient with the tubulovillous adenoma or the patient with Dukes Stage A colon carcinoma. Seven lymph nodes from Dukes Stage C patients revealed guanylyl cyclase C messenger RNA including six lymph nodes containing histopathologically confirmed metastases. Of significance, guanylyl cyclase C messenger RNA was detected in 6 of 21 lymph nodes from Dukes Stage B patients. Indeed, clinical staging of two patients could be upgraded from B to C using reverse ***transcription*** followed by polymerase chain reaction and guanylyl cyclase C-specific primers. CONCLUSION: Reverse ***transcription*** followed by polymerase chain reaction using guanylyl cyclase C-specific primers might be useful to more accurately assess micrometastases in lymph nodes of ***colorectal*** cancer patients undergoing disease staging.

L7 ANSWER 16 OF 27 MEDLINE

ACCESSION NUMBER: 1998355753 MEDLINE

DOCUMENT NUMBER: 98355753

TITLE: Substance P ***receptor*** expression in ***intestinal*** epithelium in clostridium difficile toxin A enteritis in rats.

AUTHOR: Pothoulakis C; Castagliuolo I; Leeman S E; Wang C C; Li H; Hoffman B J; Mezey E

CORPORATE SOURCE: Division of Gastroenterology, Beth Israel Deaconess Medical

Center, Harvard Medical School, Boston, MA 02215, USA.

CONTRACT NUMBER: DK-47343 (NIDDK)

SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY, (1998 Jul) 275 (1 Pt 1) G68-75.

Journal code: 3U8. ISSN: 0002-9513.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199810

ENTRY WEEK: 19981005

AB We previously reported that the inflammatory effects of Clostridium difficile toxin A on rat ***intestine*** can be significantly inhibited with a specific neurokinin-1 ***receptor*** (NK-1R) antagonist. In this study we investigated the localization and expression of NK-1R mRNA and protein in rat ***intestine*** by in situ hybridization, Northern blot analysis, and immunohistochemistry, respectively, after exposure to toxin A. Northern blot analysis showed increased mucosal levels of NK-1R mRNA starting 30 min after toxin A administration. In situ hybridization showed that toxin A increased NK-1R

mRNA expression in ***intestinal*** epithelial cells after 30, 120, and 180 min. In rats pretreated with the NK-1R antagonist CP-96345 the increase in NK-1R mRNA levels after exposure to toxin A was inhibited, indicating that NK-1R upregulation is substance P (SP) dependent. One hour after exposure to toxin A many of the ***intestinal*** epithelial cells showed staining for NK-1R compared with controls. Specific 125I-SP binding to purified epithelial cell membranes obtained from ileum exposed to toxin A for 15 min was increased twofold over control and persisted for 4 h. This report provides evidence that NK-1R expression is increased in the ***intestinal*** epithelium shortly after exposure to toxin A and may be important in toxin A-induced inflammation.

L7 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:216737 CAPLUS
DOCUMENT NUMBER: 128:266929
TITLE: Transcriptional regulation of the guanylin/heat-stable
enterotoxin ***receptor*** : role of HNF-4
in ***intestine*** -specific gene
transcription
AUTHOR(S): Swenson, Eugene Scott
CORPORATE SOURCE: Univ. of Cincinnati, Cincinnati, OH, USA
SOURCE: (1997) 136 pp. Avail.: UMI, Order No. DA9814487
From: Diss. Abstr. Int., B 1998, 58(11), 5809
DOCUMENT TYPE: Dissertation
LANGUAGE: English
AB Unavailable

L7 ANSWER 18 OF 27 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 97170768 EMBASE
DOCUMENT NUMBER: 1997170768
TITLE: CD4+ T-cell population mediates development of
inflammatory
bowel disease in T-cell ***receptor*** .alpha.
chain-deficient mice.
AUTHOR: Takahashi I.; Kiyono H.; Hamada S.
CORPORATE SOURCE: Dr. S. Hamada, Department of Oral Microbiology, Faculty of
Dentistry, Osaka University, 1-8 Yamadaoka, Suita-Osaka
565, Japan
SOURCE: Gastroenterology, (1997) 112/6 (1876-1886).
Refs: 41
ISSN: 0016-5085 CODEN: GASTAB
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 026 Immunology, Serology and Transplantation
048 Gastroenterology
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Background and Aims: Increase of T cells expressing CD4 and T-cell
receptor (TCR) .alpha. .beta.+ (B(dim)) was observed in the
mucosal and peripheral lymphoid tissues of TCR .alpha.(-/-) mice with
inflammatory bowel disease (IBD). The aim of this study was to
characterize the CD4+ TCR .beta.+ T cells. Methods: Cytokine production,
TCR V.beta. usage, and helper function for Peyer's patch B cells by the
CD4+ TCR .alpha.-.beta.+ T cells were assessed. Results: The CD4+ TCR
.alpha.-.beta.+ T cells purified from mesenteric lymph nodes and lamina
propria of the ***intestine*** of IBD mice exclusively produced
interleukin 4, used selected subsets (V.beta.6, V.beta.8, V.beta.14, and

V.beta.15) of TCR, and massively proliferated after stimulation with staphylococcal ***enterotoxin*** B. Addition of the CD4+ TCR .alpha.-.beta.+ T cells to Peyer's patch B-cell cultures markedly enhanced immunoglobulin (Ig) A, IgG, and IgM antibody responses. Furthermore, depletion of the TCR .alpha.-.beta.+ T cells with monoclonal antibody against TCR .beta. chain completely suppressed the onset of IBD and polyclonal B-cell activation in the TCR .alpha.(-/-) mice. Conclusions: These findings suggest the CD4+ TCR .alpha.-.beta.+ T cells-mediated development of IBD in TCR .alpha.(-/-) mice.

L7 ANSWER 19 OF 27 MEDLINE DUPLICATE 6
 ACCESSION NUMBER: 1998008924 MEDLINE
 DOCUMENT NUMBER: 98008924
 TITLE: The uroguanylin gene (Gucalb) is linked to guanylin (Guca2)
 on mouse chromosome 4 [published erratum appears in Genomics 2000 May 15;66(1):122].
 AUTHOR: Whitaker T L; Steinbrecher K A; Copeland N G; Gilbert D J; Jenkins N A; Cohen M B
 CORPORATE SOURCE: Division of Pediatric Gastroenterology and Nutrition, Children's Hospital Medical Center, 3333 Burnet Avenue, Cincinnati, Ohio 45229, USA.
 CONTRACT NUMBER: DK 47318 (NIDDK)
 SOURCE: GENOMICS, (1997 Oct 15) 45 (2) 348-54.
 Journal code: GEN. ISSN: 0888-7543.
 PUB. COUNTRY: United States
 Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 OTHER SOURCE: GENBANK-U95182
 ENTRY MONTH: 199804

AB Uroguanylin is an endogenous ligand of the ***intestinal***
 receptor guanylate cyclase-C (***GC*** - ***C***). Both
 uroguanylin and the related peptide ligand guanylin bind to ***GC*** -
 C and stimulate an increase in cyclic GMP, inducing chloride
 secretion via the cystic fibrosis transmembrane conductance regulator. We
 describe the cloning of the complete mouse uroguanylin gene (Gucalb) and
 show that Guca2 is tightly linked to the mouse guanylin gene on

chromosome 4. The two genes are structurally similar, being composed of
 three short exons; the uroguanylin gene spans 2.4 kb and the guanylin
 gene spans 1.7 kb. Uroguanylin mRNA is most prominent in proximal small
 intestine, whereas guanylin mRNA is predominantly expressed in
 distal small ***intestine*** and colon. The upstream promoter
 sequence of the mouse uroguanylin gene contains a canonical TATA element at the
 site of ***transcription*** initiation and consensus binding sites
 for several known ***transcription*** factors, including HNF-1 and Sp1
 within the first 1 kb. Although the gene structure and coding sequences
 of uroguanylin and guanylin are similar, the 5' flanking sequences and
 patterns of expression of these two genes in the ***intestine*** are
 different. It is likely that uroguanylin and guanylin represent gene
 duplications that have evolved to allow overlapping and complementary
 patterns of expression in the ***intestine***. Copyright 1997

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Press.

L7 ANSWER 20 OF 27 MEDLINE
ACCESSION NUMBER: 1998402315 MEDLINE
DOCUMENT NUMBER: 98402315
TITLE: The guanylin and uroguanylin peptide hormones and their receptors.
AUTHOR: Krause W J; London R M; Freeman R H; Forte L R
CORPORATE SOURCE: Department of Pathology and Anatomical Sciences, University of Missouri, Columbia, Mo., USA.
SOURCE: ACTA ANATOMICA, (1997) 160 (4) 213-31. Ref: 144
Journal code: 09A. ISSN: 0001-5180.
PUB. COUNTRY: Switzerland
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199812
ENTRY WEEK: 19981201
AB Guanylin and uroguanylin are newly discovered, related peptides that activate common guanylyl cyclase signaling molecules and via 3', 5'-guanosine cyclic monophosphate regulate the activity of a variety of tissues and organs. Additionally, the ***message*** for both peptides is expressed in a variety of tissues and organs, including the ***intestinal*** tract and kidney, and thus may serve as part of a functional endocrine axis linking these two major organ systems in fluid/volume homeostasis. This manuscript reviews the discovery and nature of the guanylin and uroguanylin peptides, their actions on the ***intestinal*** mucosa and kidney, the distribution and molecular biology of the guanylyl cyclase C ***receptor***, and explores the future directions of this rapidly developing, expanding field of inquiry.

L7 ANSWER 21 OF 27 BIOSIS COPYRIGHT 2001 BIOSIS
ACCESSION NUMBER: 1997:188710 BIOSIS
DOCUMENT NUMBER: PREV199799487913
TITLE: The E. coli heat-stable ***enterotoxin*** ***receptor*** is a specific marker for metastatic ***colorectal*** cancer in extraintestinal tissues and blood.
AUTHOR(S): Waldman, S. A. (1); Barber, M.; Biswas, S.; Carrithers, S. L.; Parkinson, S. J.; Park, P.; Goldstein, S.
CORPORATE SOURCE: (1) Div. Clin. Pharmacol., Dep. Med., Thomas Jefferson Univ., Philadelphia, PA USA
SOURCE: Clinical Pharmacology & Therapeutics, (1997) Vol. 61, No. 2, pp. 194.
Meeting Info.: Abstracts of Papers to be presented at the Ninety-eight Annual Meeting of the American Society for Clinical Pharmacology and Therapeutics San Diego, California, USA March 5-8, 1997
ISSN: 0009-9236.
DOCUMENT TYPE: Conference; Abstract
LANGUAGE: English

L7 ANSWER 22 OF 27 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 97426188 MEDLINE
DOCUMENT NUMBER: 97426188
TITLE: Transcripts encoding three types of guanylyl-cyclase-

coupled trans-membrane receptors in inner ear tissues of guinea pigs.

AUTHOR: Krause G; Meyer zum Gottesberge A M; Wolfram G; Gerzer R
 CORPORATE SOURCE: Abteilung fur Klinische Pharmakologie, Medizinische Klinik,
 Klinikum Innenstadt der Universitat, Munich, Germany. 101.356.242@compuserve.com

SOURCE: HEARING RESEARCH, (1997 Aug) 110 (1-2) 95-106.
 Journal code: HCK. ISSN: 0378-5955.

PUB. COUNTRY: Netherlands
 Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199802
 ENTRY WEEK: 19980204

AB The distribution of membrane-bound guanylyl cyclase (GC) ***transcription*** in inner ear tissues of the guinea pig was addressed

by a reverse ***transcription*** -PCR approach using consensus primers flanking a region of about 630 bp in the intracellular domains in the target sequences. Restriction mapping of such amplicates obtained from cochlear and vestibular specimens permitted us to demonstrate GC-A, GC-B, and ***GC*** - ***C*** expression by differentiating overall PCR signals. This assay indicated that GC-A was expressed in the cochlea and vestibular organ. PCR products resulting from transcripts of the GC-B gene were obtained at considerably lower abundance than amplicates typical of the GC-A gene. The consensus primer approach with subsequent restriction mapping provided the opportunity to examine at the same time expression of ***GC*** - ***C*** in the inner ear and revealed the occurrence of ***GC*** - ***C*** transcripts in both inner ear compartments under investigation. The distribution pattern found by analysing the intracellular domains of membrane-bound guanylyl cyclases was confirmed by demonstrating ***transcription*** of the corresponding extracellular ***receptor*** domains. In addition, single-strand conformation polymorphism analysis of cDNA amplicates comprising the catalytic domain of guanylyl cyclases also indicated the presence of ***GC*** - ***C*** expression in the inner ear tissues examined. The ***GC*** - ***C*** transcripts detected in inner ear tissues appeared to correlate with functional ***receptor*** expression, since the production of cyclic GMP catalyzed by cochlear and vestibular specimens was stimulated by 1 microM of heat-stable ***enterotoxin*** to 18 and 80% above basal levels, respectively. Thus, ***GC*** - ***C*** may be involved in the fluid regulation by typical ligands (e.g., the peptide hormone guanylin or the toxins causing travellers' diarrhea), not only in the ***intestine*** but also in the organs responsible for hearing and gravitational orientation.

L7 ANSWER 23 OF 27 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:611687 CAPLUS

DOCUMENT NUMBER: 125:293392

TITLE: Coordinate expression of .beta.-galactoside .alpha.2,6-sialyltransferase mRNA and enzyme activity in suckling rat jejunum cultured in different media: transcriptional induction by dexamethasone

AUTHOR(S): Kolinska, Jirina; Zakostelecka, Marie; Hamr, Ales;
Baudysova, Marie
CORPORATE SOURCE: Czech Academy Science, Institute Physiology, Prague,
142 20, Czech Rep.
SOURCE: J. Steroid Biochem. Mol. Biol. (1996), 58(3), 289-297
CODEN: JSBBEZ; ISSN: 0960-0760
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In attempting to elucidate the mol. basis of the expression of
.alpha.2,6-sialyltransferase (.alpha.2,6- ***ST***) in jejunal
explants

of 7-day-old rats during cultivation, the total jejunal RNA was analyzed
by hybridization using a cDNA clone encoding rat liver .alpha.2,6-
ST. Under cultivation in both serum-free and serum-contg.

media

jejunal .alpha.2,6- ***ST*** mRNA closely paralleled the bound (100

000

g pellet) as well as the sol. (100 000 g supernatant) .alpha.2,6-

ST activity, the correlation coeffs. being 0.976 and 0.816,

resp.

Dexamethasone (Dx) treatment enhanced .alpha.2,6- ***ST*** mRNA and
membrane-bound .alpha.2,6- ***ST*** activity in close correlation.
Jejunal .alpha.2,6- ***ST*** mRNA is sensitive to actinomycin D and is
lost with apparently identical kinetics in Dx-stimulated and control
explants, suggesting that regulation by Dx may be exerted by altering the
rate of mRNA synthesis. Dx-dependent activation resulted in elevation of
the 4.3-Kb mRNA and can be inhibited by the antiglucocorticoid
onapristone, demonstrating the participation of the glucocorticoid
receptor pathway.

L7 ANSWER 24 OF 27 MEDLINE

DUPLICATE 8

ACCESSION NUMBER: 96180976 MEDLINE

DOCUMENT NUMBER: 96180976

TITLE: Cell line-specific transcriptional activation of the
promoter of the human guanylyl cyclase C/heat-stable
enterotoxin / ***receptor*** gene.

AUTHOR: Mann E A; Jump M L; Glenella R A

CORPORATE SOURCE: Division of Digestive Diseases, University of Cincinnati
College of Medicine, Cincinnati, OH 45267, USA.

SOURCE: BIOCHIMICA ET BIOPHYSICA ACTA, (1996 Feb 7) 1305 (1-2)
7-10.

Journal code: A0W. ISSN: 0006-3002.

PUB. COUNTRY: Netherlands

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals; Cancer Journals

OTHER SOURCE: GENBANK-U20230

ENTRY MONTH: 199607

AB The guanylyl cyclase C protein, expressed primarily in the
intestine, is the ***receptor*** for the heat-stable
enterotoxin of Escherichia coli. We have isolated and sequenced
the promoter region and the first exon of human guanylyl cyclase C and
determined the major site of ***transcription*** initiation.
Transfection of a -1973/+124 promoter/luciferase gene fusion construct in
the Caco-2 ***intestinal*** cell line resulted in a high level of
expression; results with deletion constructs indicate the presence of
multiple positive-acting sequence elements. These promoter elements were
not active upon transfection into NIH/3T3 and LLC-PK1 cell lines which do
not express ***GC*** - ***C***.

L7 ANSWER 25 OF 27 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 94206474 EMBASE

DOCUMENT NUMBER: 1994206474

TITLE: Induction of heat-stable ***enterotoxin***
receptor activity by a human Alu repeat.

AUTHOR: Almenoff J.S.; Jurka J.; Schoolnik G.K.

CORPORATE SOURCE: Div. of Infectious Diseases, Duke University Medical
Center, Duke South, Blue Zone, Durham, NC 27710, United
States

SOURCE: Journal of Biological Chemistry, (1994) 269/24
(16610-16617).

ISSN: 0021-9258 CODEN: JBCHA3

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The heat-stable enterotoxins (***ST***) elaborated by enterotoxigenic
Escherichia coli are a family of small cysteine-rich peptides that bind
to

specific epithelial receptors in the mammalian ***intestine*** ,
causing a secretory diarrhea. The expression of ***ST*** receptors is
tightly regulated; they are found primarily in ***intestine*** , and
their expression is developmentally modulated. One ***receptor*** for
ST has been cloned, and its cDNA encodes a .apprx.120-kDa
particulate guanylyl cyclase (guanylyl cyclase-C). Recent studies suggest
that there are additional ***ST*** receptors that are not homologous
to guanylyl cyclase-C. We used an expression cloning strategy to identify
intestinal mRNAs that lead to expression of ***ST***
receptor activity in transfected cells. Using an ***ST***
-specific affinity panning system, we identified a novel 1891- base pair
cDNA that does not encode a ***receptor*** protein, but instead,
consists primarily of untranslated sequence. This cDNA induced
receptor activity in both COS and 293 embryonic kidney cells.
Northern analysis of the T84 human ***intestinal*** cell line, from
which this cDNA was cloned, suggests that it is part of a 7.8-kilobase
mRNA transcript. This transcript was also identified in human small
intestine and colon, as well as in several extra-
intestinal tissues. Functional analysis of subcloned fragments
reveals that ***ST*** binding activity is induced by a 457-base pair
human Alu repetitive sequence within the cDNA and that the phenotype is
independent of orientation. These findings suggest that a human Alu
element induces expression of a unique ***ST*** ***receptor*** by
a transacting mechanism. An unrelated Alu-rich genomic clone did not
confer ***ST*** binding, suggesting that there may be structural and
functional specificity within individual Alu sequences.

L7 ANSWER 26 OF 27 EMBASE COPYRIGHT 2001 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 92357475 EMBASE

DOCUMENT NUMBER: 1992357475

TITLE: Novel sites for expression of an Escherichia coli
heat-stable ***enterotoxin*** ***receptor*** in
the

developing rat.

AUTHOR: Laney Jr. D.W.; Mann E.A.; Dellon S.C.; Perkins D.R.;
Giannella R.A.; Cohen M.B.

CORPORATE SOURCE: Pediat. Gastroenterology/Nutr. Div., Children's Hospital
Medical Center, 3250 Elland Ave., Cincinnati, OH 45229,
United States

SOURCE: American Journal of Physiology - Gastrointestinal and

Liver

Physiology, (1992) 263/5 26-5 (G816-G821).
ISSN: 0002-9513 CODEN: APGPDF

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology
021 Developmental Biology and Teratology
029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Escherichia coli heat-stable ***enterotoxin*** (***STa***)
mediates diarrheal disease by binding to and activating an
intestinal transmembrane ***receptor*** , guanylate cyclase

C (***GC*** - ***C***). To test the hypotheses that there was 1)
increased perinatal expression of ***GC*** - ***C*** in rat
intestine and 2) ***GC*** - ***C*** expression and
STa binding in extraintestinal tissues of immature rat, we
prepared whole cell membranes and total RNA from jejunum, ileum, colon,
liver, kidney, heart, lung, brain, testis, and placenta of rats ranging
in age from 12 days gestation to adult. Northern analysis demonstrated the
presence of a unique 3.8-kb mRNA transcript at all ages in the jejunum,
ileum, colon, and, to a lesser degree, in the testis. ***GC*** -
C was also detected by Northern analysis in liver (from
gestational age 18 days through 14 days postnatal) and in placenta.
Steady-state mRNA encoding ***GC*** - ***C*** was not detected by
Northern analysis in the other organs examined. ***GC*** - ***C***
-specific mRNA expression was greatest in the perinatal period in the
jejunum, ileum, and liver. Specific binding of 125I-labeled ***STa***
was found in each of the tissue membranes in which ***GC*** - ***C***
mRNA was present; binding was not present in those tissues that had no
detectable ***GC*** - ***C*** mRNA. The existence of ***GC*** -
C in extraintestinal organs in the rat, and the developmental
changes in ***GC*** - ***C*** expression support our hypothesis
that ***GC*** - ***C*** , apart from its role as an ***STa***
receptor in mediating diarrheal disease, also serves as a
receptor for an endogenous ligand.

L7 ANSWER 27 OF 27 MEDLINE

ACCESSION NUMBER: 92337640 MEDLINE

DOCUMENT NUMBER: 92337640

TITLE: A gradient in expression of the Escherichia coli
heat-stable ***enterotoxin*** ***receptor***

exists

along the villus-to-crypt axis of rat small
intestine .

AUTHOR: Cohen M B; Mann E A; Lau C; Henning S J; Giannella R A

CORPORATE SOURCE: Children's Hospital Medical Center, Cincinnati, OH 45229..

CONTRACT NUMBER: DK01908 (NIDDK)

HD14094 (NICHD)

SOURCE: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1992
Jul 15) 186 (1) 483-90.

Journal code: 9Y8. ISSN: 0006-291X.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals; Cancer Journals

ENTRY MONTH: 199210

AB Binding of Escherichia coli heat-stable ***enterotoxin*** to its
receptor is critical to the initiation of toxin-induced
secretion
and diarrheal disease; it is also likely, however, that this
receptor binds an endogenous ligand. In order to characterize
the
expression of the heat-stable ***enterotoxin*** ***receptor*** in
the small ***intestine***, we isolated epithelial cells from villus
tip to crypt in rat jejunum and ileum. Binding of radiolabeled toxin was
maximal in the villus preparations and gradually decreased along the
villus-to-crypt axis, paralleling the decline of sucrase activity.
Northern blots of total RNA identified a single heat stable
enterotoxin ***receptor*** transcript (3.8 kb),
predominantly
in the villus cell fractions. In situ hybridization demonstrated clear
signal in the villus cells with no apparent signal in the crypt cells,
lamina propria or muscularis. Expression of this ***receptor*** was
greatest after enterocytes leave the proliferative cycle and enter villi.
This pattern of gene and protein expression may reflect a role of this
receptor in binding endogenous ligands which in turn may
regulate
intestinal ion flux along the villus-to-crypt axis.